

STANDARD CHLORINE OF DELAWARE, INC.  
ADMINISTRATIVE RECORD FILE \*  
INDEX OF DOCUMENTS

I. SITE IDENTIFICATION

1. Report: Preliminary Assessment, Site Inspection and Sampling, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Delaware Department of Natural Resources and Environmental Control (DNREC), 9/9/82. P. 100001-100062.
2. Report: A Preliminary Assessment of Standard Chlorine, prepared by DNREC, 12/83. P. 100063-100090.
3. Background information on Standard Chlorine of Delaware, Inc., Delaware City, Delaware, (undated). P. 100091-100096.

\* Administrative Record File available 3/4/91, updated 8/19/93 1/4/94, 4/1/94 and 3/13/95.

## II. REMEDIAL ENFORCEMENT PLANNING

1. Letter to Mr. Louis Wiener, Standard Chlorine of Delaware, Inc., and Chloroben Chemical Company, Inc., from Mr. Roland W. Schrecongost, U.S. EPA, re: Complaint and notice of opportunity for hearing concerning violations of the Toxic Substances Control Act (TSCA), 5/15/85. P. 200001-200006. The Complaint is attached.
2. Letter to Mr. Thomas Pierson, Standard Chlorine of Delaware, Inc., from Mr. Stephen R. Wassersug, U.S. EPA, re: 104(e) request for information, 4/22/86. P. 200007-200009.
3. Complaint, In The District Court For The District of Delaware, Atlantic States Legal Foundation v. Standard Chlorine of Delaware, Inc., Civil Action No. 86-480, 10/16/86. P. 200010-200017. A letter concerning Section 505(b) of the Clean Water Act is attached.
4. Letter to Mr. John C. Laager, Saul, Ewing, Remick and Saul, from Ms. Jeanne L. Langdon, re: Complaint and Consent Order, 12/28/87. P. 200018-200024. A Civil Cover Sheet, a Summons in a Civil Action, and the Complaint are attached.
5. Entry of Appearance, In The United States District Court For The District of Delaware, Mr. John E. Wilson, III, v. Standard Chlorine of Delaware, Inc., Civil Action No. 88-11, 1/20/88. P. 200025-200026. A Certificate of Service is attached.
6. Letter to Mr. Michael F. Foster, Department of Justice, Mr. John C. Laager, Saul, Ewing, Remick, & Saul, and Ms. Jeanne L. Langdon, DNREC, from Mr. John R. McAllister, Jr., U.S. District Court, re: Consent Order, JLL, 1/22/88. P. 200027-200051. The Consent Order is attached.
7. Letter to Ms. Diane E. Wehner, DNREC, from T.E. Pierson, Standard Chlorine of Delaware, Inc., re: Information pursuant to Consent Order between Mr. John E. Wilson and Standard Chlorine of Delaware, Inc., Civil Action No. 88-11 JLL, 4/22/88. P. 200052-200053.
8. Memorandum to Mr. Mike Foster, U.S. Department of Justice (DOJ), from Ms. June D. MacArtor, DNREC, re:

Charge against Standard Chlorine employee, 10/12/88.  
P. 200054-200054.

9. Amendment to Consent Order, In The United States District Court For The District of Delaware, Mr. John E. Wilson, III, DNREC v. Standard Chlorine of Delaware, Inc., C.A. No. 88-11, 11/7/88. P. 200055-200058.
10. Letter to Ms. Jeanne L. Langdon, DNREC, from Mr. Carl B. Everett, Saul, Ewing, Remick & Saul, re: Signing of Consent Order amendments, 11/29/88. P. 200059-200059.

Air Products and Chemicals, Inc.

11. Letter to Mr. David Keehn, Air Products & Chemical Company, from Mr. Larry S. Miller, U.S. EPA, re: 104(e) request for information, 5/27/92. P. 200060-200070. A certified mail receipt, a site map, and a Right of Way Agreement are attached.
12. Letter to Ms. Joan Armstrong, U.S. EPA, from Mr. Todd Solodar, Air Products and Chemicals, Inc., re: Response to 104(e) inquiry, 6/22/92. P. 200071-200074. A site map and a Federal Express receipt are attached.
13. Letter to Ms. Joan Armstrong, U.S. EPA, from Mr. Todd Solodar, Air Products and Chemicals, Inc, re: Transmittal of a map illustrating the location of Air Products and Chemicals, Inc.'s property on which Standard Chlorine has stored soil, 2/25/93. P. 200075-200077. The map and an envelope are attached.

Delaware Development Office

14. Letter to Mr. John J. Casey, Jr., Delaware Development Office, from Mr. Larry S. Miller, U.S. EPA, re: 104(e) request for information, 11/25/92. P. 200078-200083. A certified mail receipt and a site map are attached.
15. Letter to Ms. Joan Armstrong, U.S. EPA, from Mr. James P. Lisa, Jr., Delaware Development Office, re: Response to 104(e) inquiry, 12/21/92. P. 200084-200287. The following are attached:
  - a) an Indenture of Trust between the Delaware Department of Community Affairs and Economic Development and Farmers Bank of the State of Delaware, dated November 15, 1970;

- b) a Deed between Standard Chlorine of Delaware, Inc. and the Delaware Department of Community Affairs and Economic Development, dated December 2, 1970;
- c) an Indenture of Trust between the Delaware Department of Community Affairs and Economic Development and the Bank of Delaware, dated November 1, 1976;
- d) a Loan Agreement between the Delaware Economic Development Authority and Standard Chlorine of Delaware, Inc., dated December 21, 1984;
- e) an envelope.

ICI Americas Inc.

- 16. Letter to Mr. J. Kemerer, ICI Americas Inc., from Mr. Larry S. Miller, U.S. EPA, re: 104(e) request for information, 3/25/93. P. 200288-200297. A certified mail receipt, a site map, and a copy of the 104(e) request for information, dated March 25, 1993 are attached.

Occidental Chemical Corporation

- 17. Letter to Mr. J.R. Hirl, Occidental Chemical Corporation, from Mr. Abraham Ferdas, U.S. EPA, re: Notice of potential liability, 9/29/92. P. 200298-200304. A certified mail receipt is attached.
- 18. Letter to Ms. Katherine A. Lose, U.S. EPA, from Mr. Michael A. James, Occidental Chemical Corporation, re: Response to the notice of potential liability, 11/6/92. P. 200305-200307.
- 19. Letter to Mr. J.R. Hirl, Occidental Chemical Corporation, from Mr. Larry S. Miller, U.S. EPA, re: 104(e) request for information, 3/25/93. P. 200308-200323. The following are attached:
  - a) a certified mail receipt;
  - b) a site map;
  - c) a deed between Diamond Shamrock Corporation and the Delaware Department of Community

Affairs and Economic Development, dated November 12, 1970;

- d) a deed between Diamond Shamrock Corporation and Standard Chlorine of Delaware, Inc., dated December 17, 1980.
20. Letter to Ms. Joan Armstrong, U.S. EPA, from Mr. Mike James, Occidental Chemical Corporation, re: Response to 104(e) inquiry, 4/20/93. P. 200324-200331. A Stock Purchase Agreement between Diamond Shamrock Corporation, Occidental Petroleum Corporation, Occidental Chemical Holding Corporation, and Oxy-Diamond Alkali Corporation, dated September 4, 1986, and an envelope are attached.

Standard Chlorine of Delaware, Inc.

21. Letter to Ms. Laura Boornazian, U.S. EPA, from Mr. Thomas E. Pierson, Standard Chlorine of Delaware, Inc., re: Response to a request for information concerning a release or threat of release of a hazardous substance into the environment, 3/13/85. P. 200332-200335. A list of documents received from Standard Chlorine of Delaware, Inc. is attached.
22. Letter to Mr. Thomas E. Pierson, Standard Chlorine of Delaware, Inc., from Mr. Stephen R. Wassersug, U.S. EPA, re: 104(e) request for information, 11/1/85. P. 200336-200341. Two certified mail receipts and a site map are attached.
23. Letter to Mr. Victor J. Janasik [sic], U.S. EPA, from Mr. T.E. Pierson, Standard Chlorine of Delaware, Inc., re: Response to 104(e) inquiry, 12/9/85. P. 200342-200343.
24. Letter to Mr. Thomas E. Pierson, Standard Chlorine of Delaware, Inc., from Mr. Stephen R. Wassersug, U.S. EPA, re: Notice of potential liability, 4/11/86. P. 200344-200346.
25. Consent Order, Department of Natural Resources and Environmental Control, Plaintiff, v. Standard Chlorine of Delaware, Inc., Defendant, Civil Action No. 88-11, 12/4/87. P. 200347-200374. The Amendment to the Consent Order is attached.

26. Access and Test Well License Agreement between Occidental Chemical Corporation and Standard Chlorine of Delaware, Inc., 5/29/90. P. 200375-200379.
27. Letter to Mr. Tom Pierson, Standard Chlorine of Delaware, Inc., from Mr. Karl F. Kalbacher, DNREC, re: Notification of non-compliance with the Consent Order, 2/3/92. P. 200380-200381.
28. Letter to Mr. Karl F. Kalbacher, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Response to the non-compliance letter, 2/19/92. P. 200382-200384.
29. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Potential violation of the Consent Order by Standard Chlorine of Delaware, Inc., 3/12/93. P. 200385-200385.
30. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Response to a letter concerning the potential violation of the Consent Order by Standard Chlorine of Delaware, Inc., 4/5/93. P. 200386-200386.
31. Letter to Mr Louis P. Wiener, Standard Chlorine of Delaware, Inc., from Mr. Larry S. Miller, U.S. EPA, re: 104(e) request for information, 6/11/93. P. 200387-200407. Enclosure I, Financial Statement of Corporate Debtor, and a certified mail receipt are attached.
32. Letter to Mr. Tom Pierson, Standard Chlorine of Delaware, Inc. from Mr. Stephen R. Wassersug, U.S. EPA, re: 104(e) request for information, (undated). P. 200408-200209.

Tidewater Oil Company

33. Letter to Mr. G.F. Rome, Tidewater Oil Company, from Mr. Larry S. Miller, U.S. EPA, re: 104(e) request for information, 10/29/92. P. 200410-200414. A certified mail receipt and a site map are attached.
34. Letter to Ms. Joan Armstrong, U.S. EPA, from Mr. R. Scott McCay, Texaco, Inc., re: Response to 104(e) inquiry on behalf of Tidewater Oil Company, 11/23/92. P. 200415-200417. An envelope is attached.

### Zeneca

35. Letter to Mr. Joseph C. Kelly, Zeneca, from Mr. Larry S. Miller, U.S. EPA, re: 104(e) request for information, 4/10/93. P. 200418-200423. A certified mail receipt and a site map are attached.

### Additional Information

36. Superfund Memorandum of Agreement, the State of Delaware and the United States Environmental Protection Agency, Region III, 9/30/88. P. 200424-200441.
37. Final Administrative Order on Consent, In The Matter Of: Occidental Chemical Corporation, U.S. EPA Docket Number RCRA-III-044CA, 6/28/91. P. 200442-200533.

### Air Products and Chemicals, Inc.

38. Letter to Mr. Karl F. Kalbacher, DNREC, from Mr. Todd Solodar, Air Products and Chemicals, Inc., re: Request for EPA to conduct additional sampling of MW-10 on Air Product's property and to install an additional well, 2/10/92. P. 200534-200534.
39. Letter to Mr. Karl F. Kalbacher, DNREC, from Mr. Todd Solodar, Air Products and Chemicals, Inc., re: Request to participate in a meeting between the EPA, DNREC, and Standard Chlorine, Inc. to discuss the RI/FS, 4/2/92. P. 200535-200535.
40. Letter to Mr. Todd Solodar, Air Products and Chemicals, from Ms. Anne V. Hiller, DNREC, re: Response to the request to participate in a meeting between EPA, DNREC, and Standard Chlorine, Inc. to discuss comments on the RI/FS, 4/24/92. P. 200536-200536.
41. Letter to Ms. Ann V. Hiller [sic], DNREC, from Mr. Todd Solodar, Air Products and Chemicals, Inc., re: Summary of past correspondence and a request to be kept informed of site developments, 3/15/93. P. 200537-200538.
42. Letter to Mr. Harold A. Wagner, Air Products and Chemicals, Inc., from Mr. Abraham Ferdas, U.S. EPA, re: Notice of potential liability, 7/21/93. P. 200539-200545. A certified mail receipt is attached.

43. Letter to Ms. Katherine A. Lose, U.S. EPA, from Mr. Todd Solodar, Air Products and Chemicals, Inc., re: Response to the notice of potential liability, 8/26/93. P. 200546-200548.

Occidental Chemical Corporation

44. Letter to Mr. Michael A. James, Occidental Chemical Corporation, from Mr. Larry S. Miller, U.S. EPA, re: 104(e) request for information, 7/8/93. P. 200549-200551.

Star Enterprise

45. Letter to L.A. Wilkes, Star Enterprise, from Mr. Abraham Ferdas, U.S. EPA, re: Notice of potential liability, 7/21/93. P. 200552-200559. A list of PRPs for the site and a certified mail receipt are attached.
46. Letter to Ms. Katherine A. Lose, U.S. EPA, from Mr. J. Samuel Listiak, Star Enterprise, re: Response to the notice of potential liability, 8/19/93. P. 200560-200561.

Texaco Refining & Marketing, Inc.

47. Letter to Mr. Don H. Schmude, Texaco Refining & Marketing, Inc., from Mr. Larry S. Miller, U.S. EPA, re: 104(e) request for information, 7/23/93. P. 200562-200566. A certified mail receipt is attached.
48. Letter to Mrs. Joan Armstrong, U.S. EPA, from Mr. Pierre Espejo, Texaco Inc., re: Confirmation of a 30 day extension to respond to the 104(e) inquiry, 8/12/93. P. 200567-200567.
49. Letter to Mr. Don H. Schmude, Texaco Refining and Marketing, Inc., from Mr. Abraham Ferdas, U.S. EPA, re: Notice of potential liability, 8/17/93. P. 200568-200574. A list of PRPs for the site and a certified mail receipt are attached.



50. Letter to Ms. Katherine A. Lose, U.S. EPA, from Mr. R. Scott McCay, Texaco Inc., re: Response to the notice of potential liability, 9/10/93. P. 200575-200575.
51. Letter to Ms. Joan Armstrong, U.S. EPA, from Mr. R. Scott McCay, Texaco Inc., re: Response to the 104(e) inquiry, 9/10/93. P. 200576-200641. A list of deeds in the title insurance policy, dated November 15, 1956, and nine deeds are attached.

Stauffer Management Company

52. Letter to Ms. Joan Armstrong, U.S. EPA, from Mr. Michael P. Kelly, Stauffer Management Company, re: Response to 104(e) inquiry, 5/14/93. P. 200642-200643.
53. Letter to Ms. Joan Armstrong, U.S. EPA, from Mr. Michael P. Kelly, Stauffer Management Company, re: Additional information from Stauffer Chemical Company regarding ownership of the site property and transmittal of a Region IV 104(e) inquiry response, 6/11/93. P. 200644-200648. A letter dated May 21, 1992 regarding the response to the 104(e) inquiry from EPA Region IV is attached.

### III. REMEDIAL RESPONSE PLANNING

1. Groundwater Decontamination Program Amendment:  
Authorization to Discharge Under the National Pollutant Discharge Elimination System and the Laws of the State of Delaware, 1/21/85. P. 300001-300019.
2. Letter to Mr. Richard Greene, DNREC, from Mr. Thomas E. Pierson, Standard Chlorine of Delaware, Inc., re: Notification of permit limits, 5/6/86. P. 300020-300020.
3. Letter to Mr. Thomas E. Pierson, Standard Chlorine of Delaware, Inc., from Mr. Paul J. Janiga, DNREC, re: Acknowledgement of receipt of letter regarding the installation of the ground water decontamination program equipment, 5/12/86. P. 300021-300021.
4. Letter to Ms. Diane Wehner, DNREC, from Mr. Kenneth G. Symms, Environmental Standards, Inc., re: Preliminary Toxicological Evaluation of the Standard Chlorine of Delaware Site, 11/18/88. P. 300022-300046. An invoice, a memorandum regarding the Public Health and Environmental Risk Assessment for the Standard Chlorine Superfund Site, and a report entitled "A Preliminary Risk Assessment of the Standard Chlorine of Delaware, Inc. Site in Delaware City" are attached.
5. Memorandum to Mr. Joseph Hardman and Mr. J. Paul Jones, DNREC, from Mr. Gary A. Molchan, DNREC, re: Review of NPDES permit, 5/1/89. P. 300047-300047.
6. Memorandum to Mr. Guy Lee, DNREC, from Ms. Diane E. Wehner, DNREC, re: Response to requests for information and coordination regarding contaminants present or expected to be present in the recovered groundwater, 5/30/89. P. 300048-300051. A memorandum regarding evaluation permit reissuance and a memorandum regarding the Standard Chlorine Permit Coordination is attached.
7. Report: Quality Assurance Project Plan (QAPjP), Standard Chlorine, prepared by Roy F. Weston, Inc. 8/89. P. 300052-300373. A cover letter is attached.
8. Report: Remedial Investigation/Feasibility Study Work Plan, prepared by Roy F. Weston, Inc., 8/89. P. 300374-300464. A cover letter is attached.

9. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Joseph J. Hardman, DNREC, re: Review and approval of Remedial Investigation/ Feasibility Study Work Plan, 9/1/89. P. 300465-300466.
10. Memorandum to Ms. Diane E. Wehner, DNREC, from Mr. Guy Lee, DNREC, re: Reissuance of permit to monitor air stripper flow, 10/4/89. P. 300467-300467.
11. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Joseph J. Hardman, DNREC, re: Approval of Quality Assurance Project Plan, 10/16/89. P. 300468-300469. A memorandum regarding EPA's review and approval of the Quality Assurance Project Plan is attached.
12. Letter to Ms. Diane Wehner, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: The approved modifications to the water sampling technique for the sedimentation basin monitoring zone, 12/7/89. P. 300470-300470.
13. Letter to Ms. Diane Wehner, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Transmittal of revised copy of the RI/FS, 12/13/89. P. 300471-300471.
14. Letter to Ms. Diane Wehner, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Field changes in the spill pathway were discussed, 12/29/89. P. 300472-300473.
15. Letter to Ms. Diane Wehner, DNREC, from Mr. Robert Touhey, Standard Chlorine of Delaware, Inc., re: Response to request for a copy of a topographic map, 12/29/89. P. 300474-300475.
16. Memorandum to Mr. Robert Guarni, U.S. EPA, from Ms. Bernice Pasquini, U.S. EPA, re: Reviewing the groundwater investigation portions of the RI/FS Work Plan and Quality Assurance Project Plan, 1/11/90. P. 300476-300504. The following are attached:
  - a) a map of air products;
  - b) two sample log field trip reports;

- c) a map of sample locations;
  - d) a location of residences from which well water samples were obtained;
  - e) a map of Artesian Water Company village wells;
  - f) two records of communication;
  - g) a Saint George's Quadrangle map;
  - h) eight DNREC questionnaires.
17. Memorandum to Mr. Phillip G. Retallick, DNREC, from Mr. Guy Lee, DNREC, re: Proposal to terminate the direct discharge from the groundwater recovery system, 1/16/90. P. 300505-300505.
  18. Letter to Mr. Robert Guarni, U.S. EPA, from Ms. Diane E. Wehner, DNREC, re: Summary of items discussed at the January 2, 1990 meeting, 1/16/90. P. 300506-300507.
  19. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Ms. Diane E. Wehner, DNREC, re: Justification for modification of the RI/FS Work Plan, 1/17/90. P. 300508-300508.
  20. Letter to Ms. Diane Wehner, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Copy of draft Aquifer Analysis and Proposed Pump Test Specifications, 2/7/90. P. 300509-300515. Attachment 1, Aquifer Analyses and Proposed Pump Test Specifications, Table 1 - Predicted Drawdown Within Upper Potomac Aquifer, and a letter approving the aquifer analysis and proposed pump test specifications are attached.
  21. Letter to Ms. Diane Wehner, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Comments on the pump test for the Potomac aquifer, 3/2/90. P. 300516-300519. The comments are attached.
  22. Memorandum to Mr. Guy Lee, DNREC, from Ms. Diane E. Wehner, DNREC, re: Copy of a pump test proposed by Standard Chlorine of Delaware, Inc., as part of their Superfund Remedial Investigation, 3/15/90. P. 300520-300527. Attachment 1, aquifer analyses and proposed pump test specifications, Table 1 - Predicted Drawdown

Within Upper Potomac Aquifer, and a review of the proposed pump test specifications are attached.

23. Report: March RI/FS Oversight Report, Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, prepared by CDM Federal Programs Corporation, 4/18/90. P. 300528-300573. A cover letter is attached.
24. Data Package, 1/90-5/90. P. 300574-301642.  
The following are attached:
  - a) sampling data;
  - b) a data review;
  - c) a memorandum regarding a TSS and Alkalinity Report;
  - d) memorandum regarding latest sampling results;
  - e) organic data review 5/24 SAS J165C;
  - f) organic data review 5/24 SAS 5256C;
  - g) inorganic data review 5/17 SAS 5256C;
  - h) inorganic data review 5/3 SAS 5165C;
  - i) organic data review 5/2 CASE 13149;
  - j) organic data review 4/25 CASE 13445;
  - k) organic data review 4/22 SAS 5165C;
  - l) inorganic data review 4/23 CASE 13445;
  - m) organic data review 4/23 CASE 13413;
  - n) inorganic data review 4/12 CASE 133413;
  - o) inorganic data review 4/5 CASE 13149;
  - p) data review of CASE R3-2 4/2;
  - q) organic data review 3/14 CASE 13230;

- r) organic data review 3/13 SAS 5093C;
  - s) inorganic data review 3/21 SAS 5093C;
  - t) inorganic data review 3/1 CASE 13230;
  - u) inorganic data review 2/22 CASE 13304;
  - v) inorganic data review 2/20 SAS 5093C.
25. Letter to Mr. Robert Guarni, U.S. EPA, from Ms. Diane E. Wehner, DNREC, re: Proposed aquifer test, 6/21/90. P. 301643-301645.
  26. Memorandum to Mr. Paul Janiga, DNREC, from Mr. Michael Apgar, DNREC, re: Authorization for a temporary discharge of water from a well, 6/27/90. P. 301646-301652. A memorandum regarding analytical results on samples taken on September 8, 1981, and two organic analytical requests are attached.
  27. Letter to Mr. Dilip R. Hansalina [sic], DNREC, from Mr. Robert Guarni, U.S. EPA, re: Preliminary review of EPA comments addressed by DNREC concerning the pump test, 7/6/90. P. 301653-301653.
  28. Letter to Mr. Dilip Hansalia, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Documentation of telephone conversation of July 9, 1990, stating the need to have full approval of the pump test protocol, 7/9/90. P. 301654-301654.
  29. Letter to Mr. Dilip Hansalia, DNREC, from Mr. Paul J. Janiga, DNREC, re: Acknowledgement of request for the temporary discharge of water from Star Enterprise's well, 7/9/90. P. 301655-301655.
  30. Letter to Mr. Dilip R. Hansalia, DNREC, from Mr. Robert Guarni, U.S. EPA, re: List of comments on the June 21 correspondence regarding the Standard Chlorine of Delaware, Inc., pump test, 7/10/90. P. 301656-301657.
  31. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Dilip R. Hansalia, DNREC, re: Concurrence on the work plan, 7/11/90. P. 301658-301658.
  32. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Dilip R. Hansalia, DNREC, re:

Requirement to carry out tests, 7/17/90. P. 301659-301659.

33. Memorandum to Mr. Robert Guarni, U.S. EPA, from Ms. Bernice Pasquini, U.S. EPA, re: Comments regarding the Standard Chlorine aquifer pumping test, 7/17/90. P. 301660-301661. A facsimile cover sheet is attached.
34. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Dilip R. Hansalia, DNREC, re: Approval of the work plan to perform the pump test on Well OR-6A, 7/23/90. P. 301662-301663.
35. Report: Standard Chlorine of Delaware, Analytical Results of Groundwater Sampling, Star Enterprise Well OR6A, prepared by Roy F. Weston, Inc., 8/90. P. 301664-302301.
36. Letter to Mr. Dilip Hansalia, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Concerns of DNREC and Standard Chlorine of Delaware, Inc. about the pump test, 8/6/90. P. 302302-302302.
37. Letter to Mr. Dilip R. Hansalia, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Laboratory results, 8/28/90. P. 302303-302303.
38. Quarterly Progress Reports, Standard Chlorine Site, 10/87 through 9/90. P. 302304-302328. A memorandum regarding a consent order is attached.
39. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Dilip R. Hansalia, DNREC, re: Approval to do the pump test on well OR-6A, 9/10/90. P. 302329-302329.
40. Letter to Mr. Dilip Hansalia, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Concerns addressed in regard to Standard Chlorine pump test, 9/12/90. P. 302330-302330.
41. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Karl Kalbacher, DNREC, re: Transferring of oversight duties for the Standard Chlorine Superfund Site, 9/25/90. P. 302331-302331.

42. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Groundwater recovery well pumps, 9/27/90. P. 302332-302332.
43. Letter Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Karl F. Kalbacher, DNREC, re: Submission of reports and correspondence to EPA, 10/23/90. P. 302333-302333.
44. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert Guarni, U.S. EPA, re: EPA's concern with outstanding issues regarding the Standard Chlorine Site, 11/13/90. P. 302334-302335.
45. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Karl Kalbacher, DNREC, re: DNREC's request for Standard Chlorine to revise the RI/FS activity schedule, 11/13/90. P. 302336-302336.
46. Letter to Mr. Thomas C. Voltaggio, U.S. EPA, Mr. Phillip G. Retallick, DNREC, re: Scheduling of a public meeting, 11/13/90. P. 302337-302337.
47. Monthly Progress Reports: Standard Chlorine, 9/1/89-9/30/89 to 11/1/90-11/30/90, prepared by Standard Chlorine of Delaware, Inc. P. 302338-302382.
48. Report: Quality Assurance Review, Groundwater Analytical Data, (Samples collected in July, August, and October, 1990), Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc. Analytical Laboratory, 1/91. P. 302383-302614.
49. Report: Quality Assurance Review, Groundwater Analytical Data (Samples collected from August 2, 1990 to August 16, 1990), Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Weston Analytical Laboratory, 1/91. P. 302615-302726.
50. Report: Quality Assurance Review, Analytical Data, Soil, Sediment, and Water Samples, (Sample Collected from November 1989 to February 1990), Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Weston Analytical Laboratory, 2/91. P. 302727-302923.
51. Report: Quality Assurance Review, Analytical Data, Soil, Sediment, and Water Samples (Samples Collected from November 1989 to February 1990), Volume I,



- Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., Laboratory, 2/91. P. 302924-303400.
52. Report: Quality Assurance Review, Analytical Data, Soil, Sediment, and Water Samples (Samples Collected from November 1989 to February 1990), Volume II, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc. Laboratory, 2/91. P. 303401-303822.
53. Telephone conversation record of Mr. Jim DeMartinis, Roux Association, with Ms. Laura Boornazian, U.S. EPA, re: Domestic wells in Columbia aquifer near the site, 6/14/85. P. 303823-303823.
54. Report: Cleanup and Analysis of Fish Tissue for Low Level Priority Pollutant Analysis, prepared by U.S. EPA, 2/8/89. P. 303824-303832.
55. Report: Remedial Investigation/Feasibility Study, Work Plan, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 5/15/89. P. 303833-303919.
56. Letter to Ms. Diane Wehner, DNREC, from Mr. Garth Connor, U.S. EPA, re: June 1st meeting concerning the revised RI/FS Work Plan, 6/13/89. P. 303920-303920.
57. Analytical Program information, 8/89. P. 303921-303922. Figure 3, Isoconcentration Map for Total Benzene Species Detected, is attached.
58. Meeting Report, re: Discussion of details regarding planned RI/FS activities at the site, 9/21/89. P. 303923-303928. The meeting agenda, the meeting attendance list, and two facsimile cover sheets are attached.
59. Letter to Mr. Bruce Pluta, CDM Federal Programs Corporation, from Mr. Robert Guarni, U.S. EPA, re: Change of EPA contact person for the site, 11/2/89. P. 303929-303929.
60. Information on Gas Chromatography/Mass Spectrometer, 11/21/89. P. 303930-303939. A Special Analytical Services Regional Request form is attached.

61. Telephone conversation record of Ms. Veronica Moretti, Ceimic Corporation, with Ms. Annette Lage, re: Aqueous MS/MSO for case number 13304, 12/8/89-12/12/89. P. 303940-303942. A telephone conversation record regarding MCCE-75, total metals analysis, and a telephone conversation record regarding CBF-68 (VOA's) tag numbers 3-1100954 and 3-1100955 are attached.
62. Memorandum to Mr. Tom Voltaggio, U.S. EPA, from Ms. Patricia J. Krantz, U.S. EPA, re: Monthly QA Activities Report, 12/21/89. P. 303943-303961. The report and a distribution list are attached.
63. Report: Aquifer Analyses and Proposed Pump Test Specifications, Standard Chlorine RI/FS, Draft, prepared by Weston, 1/90. P. 303962-303965. Table 1, Predicted Drawdown Within Upper Potomac Aquifer, Standard Chlorine RI/FS, January 1990, is attached.
64. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, from Mr. Karl Kalbacher, DNREC, re: Fish tissue extraction and analytical methodologies for predator filet samples taken during the October 1990 sampling, 1/3/90. P. 303966-303967.
65. Telephone conversation record of Ms. Sue Max, PACE Laboratory, Inc., with Ms. Colleen K. Walling, U.S. EPA, re: Shipment of samples not received, 1/8/90. P. 303968-303969. A telephone conversation record regarding CBF-75 (soil) is attached.
66. Telephone conversation record of Mr. Cameron Soulis, Recra Environmental, Inc., with Ms. Annette Lage, re: CBF-75 (soil), 1/9/90. P. 303970-303970.
67. Memorandum to Mr. Robert Guarni, U.S. EPA, from Ms. Bernice Pasquini, U.S. EPA, re: Review of and recommendations for the RI/FS Work Plan and QAPjP prepared by Weston for the site, 1/11/90. P. 303971-303999. The following are attached:
  - a) a site location map;
  - b) two Sample Log Field Trip Reports for Delaware City PVC Plant;
  - c) Figure E-2, Map of Sample Locations;

- d) a location map of residences from which well water samples were obtained;
  - e) a site location map of Artisans Village wells;
  - f) a telephone conversation record regarding water supply wells for Artisans Village;
  - g) a location map of Saint Georges Quadrangle;
  - h) eight DNREC Water Resources Section questionnaires.
68. Telephone conversation record of Mr. Bill Scruden, PACE Laboratory, Inc., with Ms. Colleen Walling, U.S. EPA, re: Two aqueous samples, 1/12/90. P. 304000-304001. A telephone conversation record regarding all samples is attached.
69. Telephone conversation record of Mr. Bill Scrutem [sic], PACE Laboratory, Inc., with Ms. Stevie Wilding, U.S. EPA, re: Sample numbers WS-1-WS-7, CB-1, and CB-2, 1/16/90. P. 304002-304003. A telephone conversation record regarding CZ-412 (soil) is attached.
70. Letter to Mr. Robert Guarni, U.S EPA, from Ms. Diane E. Wehner, DNREC, re: Meeting summary from January 2, 1990, 1/16/90. P. 304004-304005.
71. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Ms. Diane E. Wehner, DNREC, re: Justification for modification of the RI/FS Work Plan, 1/17/90. P. 304006-304006.
72. Special Analytical Services Regional Request form, 1/25/90. P. 304007-304013.
73. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Ms. Diane E. Wehner, DNREC, re: Fish tissue extraction and analytical methodologies, 1/30/90. P. 304014-304015.

74. Telephone conversation record of Mr. Bert Wheeler, WRI, with Ms. Colleen Walling, U.S. EPA, re: Analysis of all samples, 2/23/90. P. 304016-304016.
75. Letter to Mr. David Basko, Versar, Inc., from Ms. Stevie Wilding, U.S. EPA, re: Calculations on the amount of fish samples needed for each analysis for the site, 2/27/90. P. 304017-304017.
76. Report: January Monthly Report, RI/FS Oversight, Standard Chlorine Site, prepared by CDM Federal Programs Corporation, 3/1/90. P. 304018-304116. A cover letter is attached.
77. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Ms. Diane E. Wehner, DNREC, re: Fish tissue split sampling protocol, 3/2/90. P. 304117-304117.
78. Memorandum to Ms. Diane Wehner, DNREC, from Mr. Robert Guarni and Ms. Bernice Pasquini, U.S. EPA, re: Review of the proposed pump test specifications, 3/2/90. P. 304118-304120.
79. Letter to Ms. Diane Wehner, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Comments on the pump testing, 3/2/90. P. 304121-304121.
80. Telephone conversation record of Mr. Rich Purdy, Skinner Lab, with Ms. Stevie Wilding, U.S. EPA, re: All fish samples, 3/13/90. P. 304122-304123. A telephone conversation record regarding all BNA samples is attached.
81. Report: February 1990 Monthly Oversight Report, Standard Chlorine Site, Delaware City, Delaware, prepared by CDM Federal Programs Corporation, 3/15/90. P. 304124-304158. A cover letter is attached.
82. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Ms. Diane E. Wehner, DNREC, re: Red Lion Creek fish tissue sampling, 3/15/90. P. 304159-304160.
83. Letter to Mr. Michael J. Sauers, Air Products and Chemicals, Inc., from Mr. Robert Guarni, U.S. EPA, re: Additional information, 4/4/90. P. 304161-304161.

84. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from R. Bawliolli [sic], Air Products and Chemicals, Inc., re: Approval for Roy F. Weston, Inc. to install two shallow ground water monitoring wells, 4/30/90. P. 304162-304166.
85. Letter to Mr. Robert Touhey, Standard Chlorine of Delaware, Inc., from Mr. Robert Guarni, U.S. EPA, re: Analytical results of split samples, 6/7/90. P. 304167-304167.
86. Letter to Mr. Robert Guarni, U.S. EPA, from Ms. Diane E. Wehner, DNREC, re: Proposed pump test of OR-6A for characterization of aquifer characteristics at the site, 6/21/90. P. 304168-304172. A letter regarding the approval of the Aquifer Analysis and Proposed Pump Test Specifications is attached.
87. Letter to Mr. Dilip R. Hansalina [sic], DNREC, from Mr. Robert Guarni, U.S. EPA, re: Preliminary review of EPA comments addressed by DNREC concerning the pump test of OR-6A, 7/6/90. P. 304173-304173.
88. Facsimile cover sheet to Mr. Bob Guarni, U.S. EPA, from Mr. Dilip Hansalia, DNREC, re: Information on Standard Chlorine, 7/9/90. P. 304174-304182. The following are attached:
- a) two lists of organic compounds and pesticides;
  - b) a memorandum regarding the aquifer test at the site, dated June 27, 1990;
  - c) a memorandum regarding organic analysis results on wells OR-6A and OR-5A, dated November 6, 1981;
  - d) a DNREC Organic Analytical Request form;
  - e) a list of extractables and base neutral extractables;
  - f) a DNREC Special Analytical Request form.
89. Letter to Mr. Dilip Hansalia, DNREC, from Mr. Paul J. Janiga, DNREC, re: Acknowledgement of the request for the temporary discharge of water from Star Enterprise's

well ORG-A [sic] for test pumping purposes, 7/9/90.  
P. 304183-304183.

90. Letter to Mr. Dilip Hansalia, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Approval of the pump test protocol, 7/9/90. P. 304184-304184.
91. Letter to Mr. Dilip R. Hansalia, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Comments on the pump test, 7/10/90. P. 304185-304186.
92. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Dilip R. Hansalia, DNREC, re: Work Plan for the pump test, 7/11/90. P. 304187-304187.
93. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Dilip R. Hansalia, DNREC, re: Tests to be carried out on the OR-6A well water, 7/17/90. P. 304188-304188.
94. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Dilip R. Hansalia, DNREC, re: Authorization to do the pump test on well OR-6A in accordance with the Work Plan, 7/18/90. P. 304189-304190.
95. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Dilip R. Hansalia, DNREC, re: Approval of the Work Plan to perform the pump test on well OR-6A subject to certain terms and conditions, 7/23/90. P. 304191-304193. A facsimile cover sheet is attached.
96. Letter to Mr. Dilip Hansalia, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Opportunity to review the final Work Plan for the pump test, 8/6/90. P. 304194-304194.
97. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Dilip R. Hansalia, DNREC, re: Approval to do the pump test on well OR-6A, 9/10/90. P. 304195-304195.
98. Letter to Mr. Dilip Hansalia, DNREC, from Mr. Robert Guarni, U.S. EPA, re: RI/FS concerns, 9/21/90. P. 304196-304197.

99. Letter to Mr. Dilip Hansalia, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Possible inability of EPA to collect split samples for the fish sampling, 9/21/90. P. 304198-304199. A letter regarding the analytical results of OR-6A pump test is attached.
100. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Karl Kalbacher, DNREC, re: Assumption of project oversight duties and future correspondence, 9/25/90. P. 304200-304200.
101. Report: Remedial Investigation, Standard Chlorine of Delaware Laboratory, Weston Analytics Laboratory, Soil, Sediment, and Surface Water Laboratory Analytical Results, Standard Chlorine of Delaware, Delaware City, Delaware, prepared by Roy F. Weston, Inc., 10/90. P. 304201-304281.
102. Telephone conversation record of Mr. Bob Guarni, U.S. EPA, with M.J.B., Weston, re: Exceeded health advisory limits, 10/2/90. P. 304282-304282.
103. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Karl F. Kalbacher, DNREC, re: Submission of reports and correspondence to EPA, 10/23/90. P. 304283-304283.
104. Letter to Mr. Richard W. Greene, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Fish tissue analysis, 10/29/90. P. 304284-304284.
105. Memorandum to Mr. Bob Guarni, U.S. EPA, from Ms. Dawn A. Ioven, U.S. EPA, re: Protective levels for chlorobenzenes in soil, 10/29/90. P. 304285-304286.
106. Telephone conversation record of Mr. Roy Cowder, South East Lab, with Ms. Stephanie Wilding, U.S. EPA, re: Fish samples, 10/31/90. P. 304287-304287.
107. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Proposed action items for additional work at the site prepared by the responsible party (RP), 11/2/90. P. 304288-304289.
108. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Karl Kalbacher, DNREC, re: Red Lion Creek fish tissue sampling of March 1990, 11/6/90. P. 304290-304293. A letter dated March 15,

1990 regarding Red Lion Creek fish tissue sampling is attached.

109. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Outstanding issues, 11/13/90. P. 304294-304295.
110. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., from Mr. Karl F. Kalbacher, DNREC, re: Schedule for submission of Remedial Investigation and Feasibility Study Reports, 11/13/90. P. 304296-304296.
111. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, from Mr. Karl F. Kalbacher, DNREC, re: Review and comments on Standard Chlorine's soil, sediment, and surface water laboratory analytical results and proposed action items, 11/20/90. P. 304297-304304. Handwritten notes and a Proposed Action Items list are attached.
112. Report: Work Plan for Baseline Risk Assessment, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 1/91. P. 304305-304356.
113. Report: Quality Assurance Review, Groundwater Analytical Data, Standard Chlorine of Delaware, Inc. Laboratory, (Samples Collected from August 2, 1990 to August 16, 1990), Remedial Investigation/Feasibility Study, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Weston Analytical Laboratory, 1/91. P. 304357-304468.
114. Memorandum to Mr. Bob Guarni, U.S. EPA, from Ms. Dawn A. Ioven, U.S. EPA, re: On-site waste piles, 1/3/91. P. 304469-304472. A chart containing general exposure assumptions and soil information is attached.
115. Memorandum to Mr. Bob Guarni, U.S. EPA, from Ms. Diane E. Wehner, U.S. EPA, re: Fish tissue analysis, 1/4/91. P. 304473-304474.
116. Letter to Mr. Karl Kalbacker [sic], DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Work Plan to conduct supplemental data gathering activities and implement run-off control measures, 1/4/91. P. 304475-304475.



117. Memorandum to Mr. Robert Guarni, U.S. EPA, from Ms. Dawn A. Ioven, U.S. EPA, re: Work Plan for supplemental Remedial Investigation and interim measures, 1/16/91. P. 304476-304476.
118. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert J. Touhey, Standard Chlorine Chemical Co., Inc., re: Work Plan for Baseline Risk Assessment, 1/16/91. P. 304477-304477.
119. Report: Quarterly Monitoring Report, Groundwater Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 1/20/91. P. 304478-304495. A cover letter is attached.
120. Memorandum to Mr. Robert Guarni, U.S. EPA, from Mr. Joseph W. Kunz, U.S. EPA, re: Air impacts possible at the site, 1/25/91. P. 304496-304497. A review of Standard Chlorine and a routing and transmittal slip are attached.
121. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Conditional acceptance of Standard Chlorine Supplemental Remedial Investigation/Interim Measures, 2/1/91. P. 304498-304498.
122. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, from Mr. Karl Kalbacher, DNREC, re: Comments on the Work Plan for Supplemental Remedial Investigation and Interim Measures, 2/4/91. P. 304499-304500. A Standard Chlorine of Delaware RI/FS Activity Schedule is attached.
123. Telephone conversation record of Mr. Cameron Soulis, RecMD Lab, with J. Snyder and Ms. Colleen K. Walling, U.S. EPA, re: Chain of Custody, 2/8/91. P. 304501-304501.
124. Memorandum to Mr. Robert Guarni, U.S. EPA, from Ms. Dawn A. Ioven, U.S. EPA, re: Comments on the Work Plan for the Baseline Risk Assessment, 2/11/91. P. 304502-304504.
125. Letter to Mr. Bob Guarni, U.S. EPA, from Ms. Diane Wehner, Mr. Bob Davis, and Mr. Ron Preston, U.S. EPA, re: Biological Technical Assistance Group's comments

on the Work Plan for the Baseline Risk Assessment,  
2/14/91. P. 304505-304506.

126. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Comments on the Risk Assessment Work Plan, 2/15/91. P. 304507-304507.
127. Telephone record conversation of Mr. Cameron Soulis, RecMD, with J. Snyder and Ms. Colleen K. Walling, U.S. EPA, re: Data for case number 15843, 3/14/91. P. 304508-304508.
128. Report: Data Analyses Report, Standard Chlorine of Delaware Site, prepared by CDM Federal Programs Corporation, 3/15/91. P. 304509-304543. A cover letter is attached.
129. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Quality Assurance Review, 3/15/91. P. 304544-304547. Two letters dated March 7, 1991 and March 14, 1991, respectively, regarding the Quality Assurance Review dated February 1991 are attached.
130. Letter to Mr. Robert Guarni, U.S. EPA, from Mr. Karl F. Kalbacher, DNREC, re: Request for comments on the Quality Assurance Review documents, 3/19/91. P. 304548-304548.
131. Letter to Mr. Robert J. Touhey, Standard Chlorine of Delaware, from Mr. Karl F. Kalbacher, DNREC, re: Review and comments on the Work Plan for the Baseline Risk Assessment, 3/22/91. P. 304549-304554.
132. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Mr. Karl F. Kalbacher, DNREC, re: Site access request for the Archaeological Reconnaissance Survey, 3/28/91. P. 304555-304555.
133. Memorandum to Mr. Robert Guarni, U.S. EPA, from Ms. Dawn A. Ioven, U.S. EPA, re: Dilution of soil/sediment samples, 4/1/91. P. 304556-304556.
134. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Review of QA data, soil, sediment and water samples collected from November 1989 to February 1990, 4/1/91. P. 304557-304558.

135. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Mr. Karl F. Kalbacher, DNREC, re: Work Plan for Supplemental Remedial Investigation and Interim Measures, 4/4/91. P. 304559-304559.
136. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Mr. Karl F. Kalbacher, DNREC, re: DNREC comments on the Quality Assurance Review analytical data, soil, sediment water samples collected from November 1989 to February 1990, 4/4/91. P. 304560-304561.
137. Standard Chlorine Response to Comments on the Human Health Risk Assessment, 4/26/91. P. 304562-304572.
138. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Response to comments, 5/14/91. P. 304573-304586. A Standard Chlorine of Delaware RI/FS Activity Schedule, a RI/FS Monthly Progress Report, and the response to comments are attached.
139. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Mr. Karl Kalbacher, DNREC, re: DNREC response to Standard Chlorine comments on the Baseline Risk Assessment Work Plan dated May 14, 1991, 5/17/91. P. 304587-304588.
140. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: The twenty-first Monthly Progress Report, 6/14/91. P. 304589-304600. The RI/FS Monthly Progress Report, the Acute Static Non Renewal Sediment Toxicity Test with Freshwater Amphipods, and a facsimile cover sheet are attached.
141. Report: Standard Chlorine of Delaware Site, Delaware City, Delaware, Monthly Oversight for May 1991, prepared by CDM Federal Programs Corporation, 6/20/91. P. 304601-304611. A cover letter is attached.
142. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Fish collection completed through May 31, 1991 on Red Lion Creek, 6/24/91. P. 304612-304615. A facsimile cover sheet is attached.
143. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Mr. Karl Kalbacher, DNREC, re:

Analysis to be conducted on the fish collected in the Red Lion Creek as part of the Baseline Risk Assessment, 7/16/91. P. 304616-304617.

144. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Evaluation of the terrestrial toxicity of chemicals of potential concern at the site, 8/2/91. P. 304618-304624. An Acute Static Non Renewal Soil Toxicity Test with Earthworms and an Acute Static Non Renewal Soil Toxicity Test with Lettuce Seeds are attached.
145. Memorandum to Mr. Robert Guarni, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Soil toxicity testing, 8/13/91. P. 304625-304625.
146. Standard Chlorine Data Summary Report, 8/19/91. P. 304626-304630. A diagram of sediment screening sample locations and a facsimile cover sheet are attached.
147. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Mr. Karl Kalbacher, DNREC, re: Soil toxicity testing at the site, 8/19/91. P. 304631-304631.
148. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Sediment/soil analysis and toxicity testing procedures, 8/26/91. P. 304632-304638. Figure 1, Sampling Locations, Figure 2, Sediment Screening Sample Locations, and Sediment Screening Samples Results of Analysis are attached.
149. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Mr. Karl Kalbacher, DNREC, re: Sediment/soil analysis and toxicity testing procedures, 8/28/91. P. 304639-304640.
150. Meeting Report, re: Possible investigation of soil and ground water around NPDES outfall line from the Standard Chlorine facility to the Delaware River, 9/17/91. P. 304641-304643.
151. Memorandum to Mr. Robert Guarni, U.S. EPA, from Mr. Dennis M. McMullen, Technology Applications, Inc., re: Results of bioassay on sediment from the site, 9/23/91. P. 304644-304646. Summary data for Standard Chlorine

sediment toxicity test and a facsimile cover sheet are attached.

152. Report: September Monthly Report, RI/FS Oversight, Standard Chlorine of Delaware, Inc., prepared by CDM Federal Programs Corporation, 10/10/91. P. 304647-304664. A cover letter is attached.
153. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: The Chronology of Events Related to the SCD Plant Effluent Pipeline, 10/10/91. P. 304665-304670. The Chronology, a letter dated September 30, 1991 regarding the effluent pipeline, and an effluent line plan and elevation map are attached.
154. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Effluent pipeline supplemental remedial investigation, 10/15/91. P. 304671-304676. Figure 1, Proposed Monitor Well Locations, and Figure 2, a schedule for completion of the assessment based on specific tasks, are attached.
155. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: SCD effluent pipeline investigation, 10/31/91. P. 304677-304678.
156. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: RI/FS sample location survey, 11/1/91. P. 304679-304680. Figure 1, Sampling Locations, is attached.
157. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Mr. Karl Kalbacher, DNREC, re: DNREC approval of effluent pipeline, 11/6/91. P. 304681-304681.
158. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Mr. Karl F. Kalbacher, DNREC, re: Extension of draft Remedial Investigation submittal date, 12/17/91. P. 304682-304682.
159. Report: Quality Assurance Review, Validated Analytical Data, Soil, Sediment, Fish, and Water Samples, Supplemental Remedial Investigation, prepared by Roy F. Weston, Inc., 1/92. P. 304683-304817.

160. Letter to Mr. Robert Guarni, U.S. EPA, from Mr. Thomas A. Drew, Roy F. Weston, Inc., re: Time-drawdown data from the upper Potomac observation wells OR-6B, MW-11, and MW-12, 1/3/92. P. 304818-304818.
161. Letter to Ms. Hiller, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Transmittal of Development of Alternatives figures and Alternatives for Detailed Analysis tables, 1/8/92. P. 304819-304826. The figures and tables are attached
162. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: The report entitled Quality Assurance Review, Validated Analytical Data, Soil, Sediment, Fish, and Water Samples, Supplemental Remedial Investigation, 1/13/92. P. 304827-304828. A letter dated December 20, 1991 regarding the Remedial Investigation is attached.
163. Service Request Form, re: review and comments on the Remedial Investigation, 1/15/92. P. 304829-304829.
164. Memorandum to Mr. Bob Guarni, U.S. EPA, from Ms. Diann Sims, U.S. EPA, re: Review of the Remedial Investigation, 2/4/92. P. 304830-304831. A summary of the contents of a data validation package is attached.
165. Memorandum to Mr. Bob Davis from Ms. Diane E. Wehner, NOAA, re: Review comments on the Remedial Investigation, 2/6/92. P. 304832-304834.
166. Letter to Mr. Karl F. Kalbacher, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Transmittal of tabular results and a meeting agenda, 2/12/92. P. 304835-304848. The agenda and the results are attached.
167. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Summary of completed interim remedial measures, 2/12/92. P. 304849-304853. Figure 1, Silt Fence Detail; Figure 2, Soil Pile; and Table 1, Soil Pile Survey Data, are attached.
168. Report: Compliance Evaluation and Technical Review of the Remedial Investigation Report, Standard Chlorine of Delaware, Inc., prepared by CDM Federal Programs Corporation, 2/13/92. P. 304854-304902. A cover letter is attached.

169. Memorandum to Mr. Bob Guarni, U.S. EPA, from Mr. Bill Foster, U.S. EPA, re: Review of the draft Remedial Investigation, 2/14/92. P. 304903-304915. A report entitled Drinking Water Regulations and Health Advisories is attached.
170. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert Guarni, U.S. EPA, re: Comments on the draft Remedial Investigation, 2/28/92. P. 304916-304955. The following are attached:
- a) a memorandum regarding EPA's comments on the draft Remedial Investigation, dated January 28, 1992;
  - b) a memorandum regarding NOAA's comments on the draft Remedial Investigation, dated February 6, 1992;
  - c) a memorandum regarding the Biological Technical Assistance Group's comments on the draft Remedial Investigation, dated February 11, 1992;
  - d) a memorandum regarding the Biological Technical Assistance Group's comments on the draft Remedial Investigation, dated January 8, 1992;
  - e) a memorandum regarding areas of concern identified by the U.S. Fish and Wildlife Service, dated February 6, 1992;
  - f) a letter regarding the U.S. Fish and Wildlife Service's concerns with the Quality Assurance Review, dated February 3, 1992;
  - g) a memorandum regarding EPA's review of the draft Remedial Investigation, dated February 10, 1992;
  - h) an excerpt from the draft Remedial Investigation.
171. Letter to Mr. David Toth, U.S. EPA, from Mr. Jon Cuizon, Dynamac Corporation, re: Characterization of the Red Lion Creek, 3/5/92. P. 304956-304957.

172. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Mr. Karl F. Kalbacher, DNREC, re: Review comments on the draft Remedial Investigation, 3/18/92. P. 304958-304974. The comments are attached.
173. Letter to Ms. Katherine Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Notice of Ms. Hiller as the new DNREC project officer for the site, 4/10/92. P. 304975-304975.
174. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: Response to comments on the draft Remedial Investigation, 4/15/92. P. 304976-304978.
175. Memorandum to Ms. K. Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Review of the Biological Technical Assistance Group's comments on the draft Remedial Investigation, 4/21/92. P. 304979-304980.
176. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Possible operating units for the site, 5/4/92. P. 304981-304981.
177. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Summary of decisions reached during an April 27, 1992 meeting concerning DNREC's and EPA's comments on the draft Remedial Investigation, 5/8/92. P. 304982-304985.
178. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Summary of decisions reached during an April 27, 1992 meeting concerning DNREC's and EPA's comments on the draft Remedial Investigation, 5/13/92. P. 304986-304989.
179. Memorandum to Ms. K. Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Bioaccumulation, food chain, and small mammal investigations, 5/20/92. P. 304990-304991.
180. Letter to Ms. Anne V. Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Resolution of outstanding issues to be used in completion of the Remedial Investigation, 5/28/92. P. 304992-304997. Appendix A, Ecological Basics Reference Materials, and a facsimile transmittal sheet are attached.



181. Letter to Ms. Anne V. Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Delineation of the site, 5/29/92. P. 304998-304999.
182. Memorandum to Ms. Anne Hiller, DNREC, from Ms. Faye L. Stocum, Delaware Historic Preservation Office, re: Potential archeological survey to be performed at the site due to the discovery of prehistoric occupation, 6/5/92. P. 305000-305001.
183. Memorandum to Ms. Katherine Lose, U.S. EPA, from Mr. Robert Davis, U.S. EPA, re: Use of animals to assess potential threat at the site, 6/17/92. P. 305002-305004. A memorandum dated June 11, 1992 regarding a site visit summary and a facsimile transmittal sheet are attached.
184. Letter to Mr. Jess Vargo, Occidental Chemical Corporation, from Mr. David L. Toth, U.S. EPA, re: Review comments on the Task I: Description of Current Activities, Task II: Pre-Investigation Evaluation of Corrective Measure Technologies, and Task III: RCRA Facility Investigation (RFI) Workplan, 6/18/92. P. 305005-305021. The comments are attached.
185. Report: Response to Comments, Draft Remedial Investigation Report, Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, prepared by Roy F. Weston, Inc., 6/29/92. P. 305022-305090.
186. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Inability of the state to perform archeological survey work, 6/30/92. P. 305091-305091.
187. Letter to Ms. Lose, U.S. EPA, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Responses to comments on the draft Remedial Investigation, 7/3/92. P. 305092-305093. A letter dated June 30, 1992 regarding responses to comments on the draft Remedial Investigation is attached.
188. Letter to Mr. John J. Humphries, III, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Clarification of an inaccurate statement in the minutes of a June 15, 1992 meeting, 7/6/92. P. 305094-305094.
189. Letter to Ms. Kate Lose, U.S. EPA, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re:

Revisions to the response to comments on the draft Remedial Investigation, the addendum, and the Work Plan for Analysis of Potential Risk to a Vole, 7/9/92. P. 305095-305095.

190. Memorandum to Ms. Dawn Ioven, Ms. Bernice Pasquini, and Mr. Bob Davis, U.S. EPA, from Ms. Kate Lose, U.S. EPA, re: Breakdown of changes to the draft Remedial Investigation, 7/14/92. P. 305096-305096.
191. Memorandum to Ms. Katherine Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Comments on the Vole Risk Work Plan, 7/16/92. P. 305097-305097.
192. Memorandum to Ms. Katherine Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Response to comments on the Vole Risk Work Plan, 7/23/92. P. 305098-305104. Information on sediment dilution, a memorandum dated February 6, 1992 regarding areas of concern identified by the U.S. Fish and Wildlife Service, and a letter dated February 3, 1992 regarding the U.S. Fish and Wildlife Service's areas of concern with the Quality Assurance Review are attached.
193. Memorandum to Ms. K. Lose, U.S. EPA, from Ms. Dawn Ioven, U.S. EPA, re: Review of the Potentially Responsible Parties (PRP) response to comments on the draft Remedial Investigation, 7/24/92. P. 305105-305105.
194. Memorandum to Mr. B. Davis, U.S. EPA, from Ms. Kate Lose, U.S. EPA, re: Request for clarification to comments on the draft Remedial Investigation, 7/31/92. P. 305106-305106.
195. Report: Support Documentation for Validated Analytical Data, prepared by Roy F. Weston, Inc., 8/92. P. 305107-305659.
196. Memorandum to Ms. Kate Lose, U.S. EPA, from Ms. Bernice Pasquini, U.S. EPA, re: Review of Roy F. Weston, Inc.'s responses to comments on the Remedial Investigation, 8/3/92. P. 305660-305660.

197. Memorandum to Ms. K. Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Clarification of comments on the Remedial Investigation, 8/3/92. P. 305661-305661.
198. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Comments and questions to be addressed in the Work Plan for the Analysis of Potential Risk to a Vole, 8/4/92. P. 305662-305662.
199. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Request for a revised work schedule, 8/7/92. P. 305663-305664.
200. Report: Section 2 Project Management Plan, prepared by Environmental Resources Management, Inc., 8/7/92. P. 305665-305695.
201. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: EPA's and DNREC's review comments on the report entitled Response to Comments, Draft Remedial Investigation Report, 8/14/92. P. 305696-305699. The comments and sediment dilution information are attached.
202. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Delay in issuance of the reply to the report entitled Response to Comments, Draft Remedial Investigation Report, 8/14/92. P. 305700-305700.
203. Report: Response to Comments Concerning Meadow Vole Work Plan, Standard Chlorine of Delaware, Inc., RI/FS Program, (no author cited), 8/17/92. P. 305701-305710.
204. Memorandum to Ms. Katherine Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Responses to the PRP's comments on the Meadow Vole Work Plan, 8/20/92. P. 305711-305711.
205. Memorandum to Ms. Katherine Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Transmittal of the inhalation model approach, 8/21/92. P. 305712-305713. The inhalation model approach is attached.

206. Memorandum to Mr. Robert Davis, U.S. EPA, from Ms. Kate Lose, U.S. EPA, re: The Meadow Vole Work Plan, 8/25/92. P. 305714-305714.
207. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Approval of the revised Work Plan for Analysis of Potential Risk to a Vole, 8/28/92. P. 305715-305715.
208. Report: Addendum to Draft Remedial Investigation Report for the Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, prepared by Roy F. Weston, Inc., 9/92. P. 305716-305824.
209. Report: Remedial Investigation Report for the Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, Volume I, prepared by Roy F. Weston, Inc., 9/92. P. 305825-306270.
210. Report: Remedial Investigation Report for the Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, Appendices A-F, Volume II, prepared by Roy F. Weston, Inc., 9/92. P. 306271-306747.
211. Report: Remedial Investigation Report for the Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, Appendices G-L, Volume III, prepared by Roy F. Weston, Inc., 9/92. P. 306748-306908.
212. Report: Remedial Investigation Report for the Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, Attachments 1 and 2, prepared by Roy F. Weston, Inc., 9/92. P. 306909-306976.
213. Memorandum to Ms. K. Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Conservative risk assessment for sediment, 9/1/92. P. 306977-306977.
214. Letter to Mr. Paul Johnston, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Resolution of a comment made in an August 14, 1992 letter concerning sediment dilution, 9/8/92. P. 306978-306978.
215. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Approval of the Vole Risk Assessment Work Plan, 9/9/92. P. 306979-306979.

216. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Transmittal of a list of response incidents to be used in clarification of past spill history, 9/14/92. P. 306980-306981. The list of response incidents is attached.
217. Memorandum to Ms. Dawn Ioven, Ms. Bernice Pasquini, and Mr. Bob Davis, U.S. EPA, from Ms. Kate Lose, U.S. EPA, re: A request for review of the final Remedial Investigation, 9/30/92. P. 306982-306982.
218. Memorandum to Mr. Peter Knight, NOAA, from Ms. Kate Lose, U.S. EPA, re: Request for review of the final Remedial Investigation, 9/30/92. P. 306983-306983.
219. Letter to Mr. Dave Spenser, Versar, Inc., from Ms. Katherine A. Lose, U.S. EPA, re: The final Remedial Investigation, 10/1/92. P. 306984-306984.
220. Memorandum to Ms. Kate Lose, U.S. EPA, from Ms. Dawn Ioven, U.S. EPA, re: Health-based clean-up concentrations for surface soil, ground water, surface water, and sediment, 10/16/92. P. 306985-306995. The following are attached:
- a) Table 1, Future Worker Scenario (Adult), Chronic Hazard Quotients and Indices;
  - b) Table 2, Future Worker Scenario (Adult), Carcinogenic Risk;
  - c) Table 3, Hunter/Fisherman Scenario (Child), Chronic Hazard Quotients and Indices;
  - d) Table 4, Hunter/Fisherman (Adult), Carcinogenic Risk;
  - e) Table 5, Noncarcinogenic Health-Based Concentrations for Soil and Ground Water;
  - f) Table 6, Carcinogenic Health-Based Concentrations for Soil and Ground Water;
  - g) Table 7, Noncarcinogenic Health-Based Concentrations for Surface Water and Sediment;

- h) Table 8, Carcinogenic Health-Based Concentrations for Surface Water and Sediment;
  - i) Table 9, Potential Health-Based Clean-Up Concentrations.
- 221. Memorandum to Ms. Kate Lose, U.S. EPA, from Ms. Bernice Pasquini, U.S. EPA, re: Review of the final Remedial Investigation, 10/19/92. P. 306996-306996.
  - 222. Memorandum to Ms. Anne Hiller, DNREC, from Ms. Katherine Lose, U.S. EPA, re: The Bioremediation Treatability Study, 10/23/92. P. 306997-306997.
  - 223. Memorandum to Ms. Katherine Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Biological Technical Assistance Group's preliminary comments on the final Remedial Investigation, 10/28/92. P. 306998-307002.
  - 224. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Review of the final Remedial Investigation, 11/6/92. P. 307003-307003.
  - 225. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Review and approval of the revised project schedule, 11/6/92. P. 307004-307004.
  - 226. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, U.S. EPA, re: Comments on the proposed Bioremediation Treatability Study, 11/6/92. P. 307005-307005.
  - 227. Memorandum to Mr. Don Draper, U.S. EPA, from Ms. Katherine Lose, U.S. EPA, re: Review of the Bioremediation Treatability Study, 11/12/92. P. 307006-307006.
  - 228. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Transmittal of a map showing the property boundaries of the Air Products and Chemicals, Inc. facility, 11/18/92. P. 307007-307008. The map is attached.
  - 229. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Review of the final Remedial Investigation and comments to be considered in the Feasibility Study and the Remedial Design Phase,

- 11/23/92. P. 307009-307017. A Record of Decision (ROD) checklist and a memorandum dated October 28, 1992 regarding the Biological Technical Assistance Group's comments on the final Remedial Investigation are attached.
230. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: The No Observable Effect Level (NOEL) determination established during sediment dilution bioassay tests, 11/24/92. P. 307018-307021. A Sediment Sample Location Map is attached.
231. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Request for Applicable or Relevant and Appropriate Requirements (ARARs) for the site, 11/24/92. P. 307022-307022.
232. Report: Draft Work Plan for Bioremediation Treatability Testing for the Standard Chlorine of Delaware, Inc., Delaware City, DE Site, prepared by Roy F. Weston, Inc., 12/92. P. 307023-307054.
233. Facsimile transmittal sheet to Ms. Kate Lose, U.S. EPA, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Response levels and remedial alternatives, 12/3/92. P. 307055-307060. A summary entitled "Methodology for Determination of Response Levels" is attached.
234. Memorandum to Ms. K. Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Protection of ecological resources, 12/8/92. P. 307061-307062.
235. Memorandum to file from Ms. Kate Lose, U.S. EPA, re: Summary of a meeting concerning the draft outline of response levels and remediation alternatives under consideration, 12/8/92. P. 307063-307070. A summary entitled "Methodology for Determination of Response Levels" and a meeting sign-in sheet are attached.
236. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Comments on the proposed Feasibility Study, 12/9/92. P. 307071-307071.

237. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. Thomas A. Drew, Roy F. Weston, Inc., re: The draft Treatability Study Work Plan, 12/16/92. P. 307072-307072.
238. Letter to Ms. Anne Hiller, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: The Bioremediation Treatability Testing Work Plan, 12/17/92. P. 307073-307073.
239. Memorandum to Mr. Don Draper, U.S. EPA, from Ms. Katherine Lose, U.S. EPA, re: Request for review of the draft Bioremediation Treatability Study Work Plan, 12/22/92. P. 307074-307074.
240. Report: Standard Chlorine of Delaware, Inc., Phase 1A Cultural Resources Assessment, Final Report, prepared by Dames & Moore, 1/93. P. 307075-307089.
241. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne Hiller, DNREC, re: Comments on the draft Bioremediation Treatability Study Work Plan, 1/8/93. P. 307090-307092. The comments are attached.
242. Memorandum to Ms. Katherine Lose, U.S. EPA, from Ms. Mary Randolph, U.S. EPA, re: Review comments on the draft Bioremediation Treatability Study Work Plan, 1/22/93. P. 307093-307096.
243. Letter to Ms. Anne Hiller, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Response to DNREC's comments on the draft Bioremediation Treatability Study Work Plan, 1/25/93. P. 307097-307101. The response is attached.
244. Report: Compliance Evaluation and Technical Review Report, Feasibility Study Report, Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, prepared by Versar, Inc., 2/93. P. 307102-307110.
245. Letter to Ms. Hiller, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: The Phase 1A Cultural Resources Assessment, 2/4/93. P. 307111-307111.
246. Letter to Ms. Anne Hiller, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: The draft Feasibility Study, 2/12/93. P. 307112-307112.



247. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. Thomas A. Drew, Roy F. Weston, Inc., re: The draft Feasibility Study, 2/15/93. P. 307113-307113.
248. Letter to Mr. Don Henne, U.S. DOI, from Ms. Katherine A. Lose, U.S. EPA, re: The final Remedial Investigation and the draft Feasibility Study to be used in initiation of the Preliminary Natural Resources Survey (PNRS), 2/19/93. P. 307114-307114.
249. Memorandum to Mr. Bob Davis, U.S. EPA, from Ms. Kate Lose, U.S. EPA, re: Request for review of the Feasibility Study, 2/19/93. P. 307115-307115.
250. Memorandum to Ms. Katherine Lose, U.S. EPA, from Mr. Robert Davis, U.S. EPA, re: Biological Technical Assessment Group's preliminary comments on the draft Feasibility Study, 3/11/93. P. 307116-307119.
251. Memorandum to Ms. Kate Lose, U.S. EPA, from Ms. Dawn Ioven, U.S. EPA, re: Review comments on the draft Feasibility Study, 3/11/93. P. 307120-307121.
252. Memorandum to Ms. Anne V. Hiller, DNREC, from Ms. Faye L. Stocum, Delaware Historic Preservation Office, re: Review comments on the draft Feasibility Study and the draft Phase IA Archeological Survey, 3/12/93. P. 307122-307123.
253. Memorandum to Ms. Kate Lose, U.S. EPA, from Ms. Bernice Pasquini, U.S. EPA, re: Review comments on the draft Feasibility Study, 3/15/93. P. 307124-307126.
254. Report: Compliance Evaluation and Technical Review, Feasibility Study Report, Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, prepared by CDM Federal Programs Corporation, 3/17/93. P. 307127-307137. A cover letter is attached.
255. Memorandum to Ms. Anne Hiller, DNREC, from Ms. Kate Lose, U.S. EPA, re: Review comments on the draft Feasibility Study, 3/18/93. P. 307138-307142.
256. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Review of the draft Feasibility Study, 3/18/93. P. 307143-307144.
257. Memorandum to Mr. Don Henne, U.S. DOI, Mr. Anthony Conte, USDI, Mr. Sean Morrison and Ms. Kirsten L.

- Erickson, NOAA, from Ms. Katherine Lose, U.S. EPA, re: Notification of completion of the Remedial Investigation/Feasibility Study (RI/FS), 3/25/93. P. 307145-107145.
258. Letter to Dr. Alvin Morris, U.S. EPA, from Mr. Gerard L. Esposito, DNREC, re: State of Delaware surface water quality standards, 3/29/93. P. 307146-307224. The standards are attached.
259. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Comments on the draft Feasibility Study, 3/31/93. P. 307225-307238. The comments and an excerpt from the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA are attached.
260. Letter to Mr. N.V. Ramen, DNREC, from Mr. Peter J. Ludzia, U.S. EPA, re: Clarification of DNREC's role in development and issuance of the Record of Decision, 4/2/93. P. 307239-307240.
261. Memorandum to Ms. Katherine Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Review comments on the Feasibility Study, 4/14/93. P. 307241-307243.
262. Transmittal Form to Ms. Kate Lose, U.S. EPA, from Mr. Michael Corbin, Roy F. Weston, Inc., re: Response summary to DNREC's and EPA's comments on the Feasibility Study, 4/30/93. P. 307244-307296. The response summary is attached.
263. Report: Final Feasibility Study Report, Standard Chlorine of Delaware, Inc., Delaware City, Delaware Facility, prepared by Roy F. Weston, Inc., 5/93. P. 307297-307572.
264. Letter to Ms. Anne Hiller, DNREC, from Mr. Robert J. Touhey, Standard Chlorine of Delaware, Inc., re: References used to eliminate soil contaminant extraction technologies during preparation of the Feasibility Study, 5/6/93. P. 307573-307575. The references and a facsimile transmittal sheet are attached.
265. Memorandum to Ms. K. Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Comments regarding ecological restoration, 5/7/93. P. 307576-307576.

266. Memorandum to Ms. K. Lose, U.S. EPA, from Ms. Dawn Ioven, U.S. EPA, re: Clean-up levels for contaminants, 5/10/93. P. 307577-307577.
267. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Information to be provided by Standard Chlorine of Delaware, Inc. concerning DNAPL contamination and dissolved plume, 5/10/93. P. 307578-307579.
268. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Information concerning response levels and effluent pipeline investigations, 5/14/93. P. 307580-307584. A Record of Decision checklist and a table of Effective Solubility of NAPL Compounds are attached.
269. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Dames & Moore, re: Phase IB Cultural Resources Evaluation, 5/18/93. P. 307585-307588.
270. Report: Standard Chlorine of Delaware, Inc., Phase IB Cultural Resources Assessment Final Report, prepared by Dames & Moore, 6/93. P. 307589-307631.
271. Memorandum to Ms. Kate Lose, U.S. EPA, from Ms. Dawn Ioven, U.S. EPA, re: Health-based soil clean-up levels, 6/2/93. P. 307632-307633.
272. Letter to Mr. Don Henne, U.S. DOI, from Ms. Katherine A. Lose, U.S. EPA, re: The final Feasibility Study, 6/2/93. P. 307634-307634.
273. Memorandum to Mr. Bob Davis, Ms. Bernice Pasquini, and Ms. Dawn Ioven, U.S. EPA, from Ms. Kate Lose, U.S. EPA, re: Request for review of the final Feasibility Study, 6/2/93. P. 307635-307635.
274. Memorandum to Mr. Kenneth Kryszczun, Mr. Peter Schaul, Ms. Kathryn Hodgkiss, Mr. Dennis Carney, Mr. John Humphries, Mr. Robert Greaves, and Mr. Richard Pepino, U.S. EPA, from Mr. Stu Kerzner, U.S. EPA, re: Safe Drinking Water Act Maximum Contaminant Level (MCL) and health advisory update, 6/3/93. P. 307636-307649. A report entitled "Drinking Water Regulations and Health Advisories" is attached.

275. Letter to Mr. Dave Spenser, Versar, from Ms. Katherine A. Lose, U.S. EPA, re: The final Feasibility Study, 6/4/93. P. 307650-307650.
276. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Issues discussed in a May 10, 1993 meeting to be clarified, 6/4/93. P. 307651-307651.
277. Letter to Ms. Kate Lose, U.S. EPA, from Mr. Steven D. Reese, Air Products and Chemicals, Inc., re: Prints showing waste soil piles, 6/9/93. P. 307652-307652.
278. Memorandum to Mr. Jack Kelly, ATSDR, from Ms. Kate Lose, U.S. EPA, re: The final RI/FS, 6/10/93. P. 307653-307653.
279. Letter to Mr. Don McDonald, NOAA, from Ms. Katherine A. Lose, U.S. EPA, re: The RI/FS, 6/10/93. P. 307654-307654.
280. Letter to Mr. David Brown, Delaware River Basin Commission, from Ms. Katherine A. Lose, U.S. EPA, re: The final RI/FS, 6/10/93. P. 307655-307655.
281. Memorandum to Ms. Katherine Lose, U.S. EPA and Mr. Peter Knight, NOAA, from Mr. Robert S. Davis, U.S. EPA, re: Transmittal of notes from memoranda relating to cleanup at the site, 6/11/93. P. 307656-307688. The following are attached:
- a) notes concerning issues to be resolved as described in the following memorandums and letters;
  - b) a memorandum regarding the Biological Technical Assistance Group's review comments on the Feasibility Study dated April 14, 1993;
  - c) a letter regarding NOAA's comments on the Feasibility Study, dated April 5, 1993;
  - d) a letter regarding NOAA's comments on the Remedial Investigation, dated October 26, 1992;
  - e) a memorandum regarding NOAA's comments on the Remedial Investigation, dated February 6, 1992;

- f) a copy of attachment `b;'
  - g) a memorandum regarding protection of ecological resources, dated December 8, 1992;
  - h) a memorandum regarding the Biological Technical Assistance Group's comments on the final Remedial Investigation, dated October 28, 1992;
  - i) a memorandum regarding the Biological Technical Assistance Group's comments on the draft Remedial Investigation, dated February 11, 1992;
  - j) a memorandum regarding areas of concern identified by the U.S. Fish and Wildlife Service, dated February 1992;
  - k) a letter regarding the U.S. Fish and Wildlife Service's areas of concern with the Quality Assurance Review, dated February 3, 1993.
282. Memorandum to Ms. Katherine Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: The Biological Technical Assistance Group's preliminary comments on the final Feasibility Study, 6/16/93. P. 307689-307690.
283. Letter to Mr. Karl Kalbacher, DNREC, from Mr. Robert Guarni, U.S. EPA, re: RCRA issues concerning the site, (undated). P. 307691-307691.
284. Biological Technical Assistance Group Document Distribution List for the Standard Chlorine Risk Assessment Work Plan, (undated). P. 307692-307692.
285. Review comments for Phase 1A Cultural Resources Assessment, Standard Chlorine of Delaware, Inc., (undated). P. 307693-307695.
286. Water Quality Sampling and Analysis information and Table 1, Summary of Water Quality Data on Benzene Species, (undated). P. 307696-307696.
287. Report: Documentation Report, Ground Water Recovery Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 4/22/88. P. 307697-307715.

288. Report: Quarterly Monitoring Report, Ground Water Recovery Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 7/21/88. P. 307716-307725. A cover letter is attached.
289. Report: Quarterly Monitoring Report, Ground Water Recovery Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 10/21/88. P. 307726-307735. A cover letter is attached.
290. Report: Quarterly Monitoring Report, Ground Water Recovery Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 1/20/89. P. 307736-307746. A cover letter is attached.
291. Report: Quarterly Monitoring Report, Ground Water Recovery Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 4/20/89. P. 307747-307757. A cover letter is attached.
292. Report: Quarterly Monitoring Report, Ground Water Recovery Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 7/20/89. P. 307758-307779. A cover letter is attached.
293. Report: Quarterly Monitoring Report, Ground Water Recovery Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 10/20/89. P. 307780-307795. A cover letter is attached.
294. Report: Quarterly Monitoring Report, Ground Water Recovery Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 1/19/90. P. 307796-307812. A cover letter is attached.
295. Report: Quarterly Monitoring Report, Ground Water Recovery Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F.

Weston, Inc., 4/20/90. P. 307813-307836. A cover letter is attached.

296. Report: Quarterly Monitoring Report, Ground Water Recovery Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 7/20/90. P. 307837-307858.
297. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 10/20/90. P. 307859-307878. A cover letter is attached.
298. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 1/20/91. P. 307879-307896. A cover letter is attached.
299. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 4/20/91. P. 307897-307915. A cover letter is attached.
300. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 7/19/91. P. 307916-307933. A cover letter is attached.
301. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 10/20/91. P. 307934-307951. A cover letter is attached.
302. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 1/20/92. P. 307952-307968. A cover letter is attached.
303. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 4/20/92. P. 307969-307985. A cover letter is attached.

304. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 7/20/92. P. 307986-308002. A cover letter is attached.
305. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 10/20/92. P. 308003-308019. A cover letter is attached.
306. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 1/20/93. P. 308020-308037. A cover letter is attached.
307. Report: Quarterly Monitoring Report, Ground Water Recovery System Operations, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 4/20/93. P. 308038-308054. A cover letter is attached.
308. Letter to Mr. David B. Everett from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Quarterly Monitoring Report for the period of January 1 through March 31, 1993, 4/20/93. P. 308055-305055.
309. Memorandum to Ms. Kate Lose, U.S. EPA, from Ms. Bernice Pasquini, U.S. EPA, re: Comments on the Final Feasibility Study, 7/8/93. P. 308056-308060.
310. Letter to Ms. Anne Hiller, DNREC, from Mr. Paul Jonhston, Standard Chlorine of Delaware, Inc., re: Follow-up activities to the Feasibility Study, 7/15/93. P. 308061-308066. A Cost Estimate for Excavation of Soils at Rail Siding, a drawing on the area of proposed excavation, and a Determination of Area of Dense Non-Aqueous Phase Liquids are attached.
311. Letter to Ms. Anne Hiller, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: A revised Quarterly Ground Water Recovery Report for the period of April 1 through June 30, 1993, 7/20/93. P. 308067-308090. The revised report is attached.



312. Memorandum to Ms. Kate Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Comments on the Final Feasibility Study, 7/20/93. P. 308087-308090.
313. Letter to Mr. David B. Everett from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: A revised quarterly Ground Water Recovery Report, 7/20/93. P. 308091-308111. A letter concerning Standard Chlorine's request to submit annual ground water monitoring reports and a revised quarterly recovery report dated July 20, 1993 are attached.
314. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Concurrence with the proposal to submit ground water monitoring reports annually instead of quarterly, 7/27/93. P. 308112-308112.
315. Letter to Mr. Don H. Schmude, Texaco Refining and Marketing, Inc., from Mr. Abraham Ferdas, U.S. EPA, re: Notice of potential liability, 8/17/93. P. 308113-308119.
316. Report: Draft Feasibility Study Addendum, Standard Chlorine of Delaware, Inc., Delaware City, Delaware Facility, prepared by Roy F. Weston, Inc., 9/93. P. 308120-308298.
317. Report: Draft Bioremediation Treatability Testing Program, Summary of Findings, Standard Chlorine of Delaware, Inc., Delaware City, Delaware, prepared by Roy F. Weston, Inc., 9/93. P. 308299-308336. A cover sheet is attached.
318. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Approval of and comments on the final Feasibility Study and the draft Feasibility Study Addendum, 10/12/93. P. 308337-308339. A memorandum regarding comments on the Final Feasibility Study is attached.
319. Report: Compliance Evaluation and Technical Review, Feasibility Study Addendum for Standard Chlorine, Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, prepared by CDM Federal Programs Corporation, 10/15/93. P. 308340-308361. A cover sheet is attached.

320. Report: Third Quarter 1993 Ground Water Recovery Report, 10/18/93. P. 308362-308382. A cover letter is attached.
321. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Review of the draft Feasibility Study Addendum, 10/18/93. P. 308383-308384. A memorandum regarding on the Draft Addendum is attached.
322. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Summary of agreements reached between DNREC and Standard Chlorine, Inc. concerning follow-up activities for the Feasibility Study, 6/23/93. P. 308385-308385.
323. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Questions on the ecological assessment work performed for the Remedial Investigation, 9/23/93. P. 308386-308387.
324. Letter to Ms. Anne Hiller, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Response to questions regarding the environmental assessment, 10/14/93. P. 308388-308391. A facsimile transmittal sheet is attached.
325. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Review of the draft Feasibility Study Addendum and a recommendation for DNREC to approve the report, 10/18/93. P. 308392-308417. The following are attached:
- a) a memorandum regarding EPA's review comments on the draft Feasibility Study Addendum, dated October 18, 1993;
  - b) a letter regarding transmittal of the Compliance Evaluation and Technical Review of the Feasibility Study Addendum, dated October 15, 1993;
  - c) the Compliance Evaluation and Technical Review, Feasibility Study Addendum, dated October 15, 1993;

- d) a memorandum regarding technical review comments on the Bioremediation Treatability Testing Program Summary-Review, dated October 8, 1993;
  - e) tables, Volatility of Chlorobenzenes: Determination of Mass Fraction in Air Phase for chlorobenzene, dichlorobenzene, trichlorobenzene, tetrachlorobenzene, and pentachlorobenzene;
  - f) a formula, Estimation of Total Soil Concentration from Vapor Concentration.
326. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Comments on the draft Proposed Plan, 10/29/93. P. 308418-308418.
327. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Conditional approval of the revised Phase 1(B) Cultural Resources Survey Work Plan, 10/29/93. P. 308419-308419.
328. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: List of DNREC staff who will be reviewing the draft Proposed Plan, 11/5/93. P. 308420-308421.
329. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Review comments on the draft Proposed Remedial Action Plan, 11/12/93. P. 308422-308425. The comments and a letter dated November 16, 1993 regarding additional comments on the Proposed Plan are attached.
330. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Additional comments on the draft Proposed Plan, 11/16/93. P. 308426-308426.
331. Letter to Ms. Anne Hiller, DNREC, from Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., re: Transmittal of revised Table 5-5, "Capital Costs for Alternative 4, Option B" for use in the Feasibility Study, 11/23/93. P. 308427-308429. The table is attached.

332. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Review of approval of the Remedial Investigation, 12/3/93. P. 308430-308437. A letter dated October 14, 1993 regarding a response to questions on the environmental assessment and a letter dated October 8, 1992 regarding transmittal of a summary of data for environmental release events are attached.
333. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: General and specific comments on the second draft of the Proposed Plan, 12/14/93. P. 308438-308440. The comments are attached.
334. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Initial comments on the third draft of the Proposed Plan, 12/28/93. P. 308441-308442.
335. Letter to Ms. Katherine A. Lose, U.S. EPA, from Mr. Robert J. Pennington, U.S. DOI, re: The U.S. Fish and Wildlife Service's comments on the draft Proposed Plan, 1/10/94. P. 308443-308444.
336. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Final comments on the third draft of the Proposed Plan, 1/24/94. P. 308445-308448. The comments are attached.
337. Letter to Ms. Anne Hiller, DNREC, from Ms. Katherine A. Lose, U.S. EPA, re: Response to DNREC's comments on the third draft of the Proposed Plan, 3/1/94. P. 308449-308455. A memorandum dated February 8, 1994 regarding Dense Non-Aqueous Phase Liquids (DNAPLs) at the site is attached.
338. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Comments on the fourth draft of the Proposed Remedial Action Plan, 3/1/94. P. 308456-308459. The comments and a facsimile cover sheet are attached.
339. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Review of and conditional approval of the Feasibility Study, 3/4/94. P. 308460-308465. A letter dated November 23, 1993 regarding transmittal of a revised table from the Feasibility Study and the revised table are attached.

340. Letter to Mr. Paul Johnston, Standard Chlorine of Delaware, Inc., from Ms. Anne V. Hiller, DNREC, re: Review comments on the draft Feasibility Study Addendum, 3/8/94. P. 308466-308493. The following are attached:
- a) a letter regarding review of the draft Feasibility Study, dated October 18, 1993;
  - b) a memorandum regarding review comments on the draft Feasibility Study, dated October 18, 1993;
  - c) a letter regarding transmittal of the Compliance Evaluation and Technical Review of the Feasibility Study Addendum, dated October 15, 1993;
  - d) the Compliance Evaluation and Technical Review, Feasibility Study Addendum, Standard Chlorine of Delaware, Inc. Site, Delaware City, Delaware, dated October 15, 1993;
  - e) a memorandum regarding the technical review of the Bioremediation Treatability Testing Program Summary, dated October 8, 1993;
  - f) tables, Volatility of Chlorobenzenes: Determination of Mass Fraction in Air Phase for chlorobenzene, dichlorobenzene, trichlorobenzene, tetrachlorobenzene, and pentachlorobenzene;
  - g) a formula, Estimation of Total Soil Concentration from Vapor Concentration.
341. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: State acceptance of the Proposed Remedial Action Plan, 3/17/94. P. 308494-308497. A memorandum dated March 16, 1994 regarding review of the Proposed Plan is attached.
342. Superfund Program Proposed Plan, Standard Chlorine of Delaware, Inc., New Castle County, Delaware, 4/94. P. 308498-308532.
343. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Transmittal of the modified ARARs

table for the site, 4/6/93. P. 308533-308543. The table is attached.

- 344. Memorandum to Ms. Katherine Lose, U.S. EPA, from Ms. Mary E. Randolph, U.S. EPA, re: Review of Bioremediation Treatability Testing Program Summary and of actions at the site, 10/8/93. P. 308544-308553. A chart entitled The Volatility of Chlorobenzenes: Determination of Mass Fraction in Air Phase, and an Equation for Estimating Total Soil Concentration from Vapor Concentration, are attached.
- 345. Memorandum to Ms. Anne Hiller, DNREC, from Ms. Nancy C. Marker, DNREC, re: Review of the March 1994 Proposed Plan, 3/16/94. P. 308554-308555.
- 346. Letter to Ms. Katherine Lose, U.S. EPA, and Ms. Anne Hiller, DNREC, from Mr. Robert J. Touhey, Standard Chlorine, re: Request for 45-day extension to the Proposed Remedial Action Plan public comment period, 4/21/94. P. 308556-308556.
- 347. Letter to Mr. Robert J. Touhey, Standard Chlorine, from Ms. Katherine A. Lose, U.S. EPA, re: Decision for a 30-day extension to the Proposed Remedial Action Plan comment period, 4/28/94. P. 308557-308558. A facsimile cover sheet is attached.
- 348. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. Peter T. Knight, National Oceanic and Atmospheric Administration, re: Comments on the Proposed Remedial Action Plan, 5/3/94. P. 308559-308561.
- 349. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. LaVern R. Heble, Occidental Chemical Corporation, re: Comments on the Proposed Remedial Action Plan, 5/4/94. P. 308562-308564. An envelope is attached.
- 350. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. Don Henne, U.S. DOI, re: Comments on the Proposed Remedial Action Plan, 5/6/94. P. 308565-308567.
- 351. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. Robert J. Touhey, Standard Chlorine, re: Request that EPA recreate documentation concerning Alternative #3 of the Feasibility Study, 5/31/94. P. 308568-308568.

352. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. Robert Davis, U.S. EPA, re: Transmittal of comments on the Proposed Remedial Action Plan by the Fish and Wildlife Service, 6/2/94. P. 308569-308571. The comments dated May 5, 1994 are attached.
353. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. Todd Solodar, Air Products, re: Comments on the Proposed Remedial Action Plan, 6/3/94. P. 308572-308573.
354. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. Robert J. Touhey, Standard Chlorine, re: Comments on the Proposed Remedial Action Plan, 6/6/94. P. 308574-308576.
355. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. Richard F. Ricci, Lowenstein, Sandler, Kohl, Fisher & Boylan, re: Comments on the Proposed Remedial Action Plan, 6/6/94. P. 308577-308584.
356. Letter to Ms. Sarah Keating, U.S. EPA, from Mr. Todd Solodar, Air Products, re: The naming of recipients of special notice letters and comments that Air Products responsible for contamination at the site, 6/9/94. P. 308585-308587. A map of the site is attached.
357. Memorandum to Ms. Joan Colson, U.S. EPA, from Ms. Patricia M. Erickson, U.S. EPA, re: Comments on the proposed remedy at the site, 7/13/94. P. 308588-308617. A memorandum dated March 20, 1991 concerning guidance on key terms used in Superfund, Innovative Treatment Technologies dated February 1991, and Immobilization as Treatment dated February 1991, are attached.
358. Memorandum to Ms. Anne V. Hiller, DNREC, from Ms. Faye L. Stocum, DNREC, re: Advisement that there are no significant historic properties within the project area, 7/29/94. P. 308618-308618.
359. Report: Work Plan for Additional Ecological Studies, Standard Chlorine of Delaware, prepared by BCM

Engineers, 8/94. P. 308619-308629. A cover letter dated August 9, 1994 is attached.

360. Letter to Ms. Katherine Lose, U.S. EPA, from Mr. Robert J. Touhey, Standard Chlorine, re: Concern over distribution of supplemental comments submitted by Standard Chlorine, 9/6/94. P. 308630-308631.
361. Memorandum to Mr. Fred Poli, BCM Engineers, from Ms. Trish Erickson, U.S. EPA, re: Information on the Spickler Landfill, Cosden Chemical Coatings, Caldwell Trucking, and Craigfarm Drum Dump, 9/8/94. P. 308632-308633.
362. Letter to Ms. Kate Lose, U.S. EPA, from Mr. Paul Johnson, Standard Chlorine, re: Summary of issues in the September 8, 1994 teleconference and a reply to EPA's request for more information from Standard Chlorine, 9/16/94. P. 308634-308636.
363. Memorandum to Ms. Katherine Lose, U.S. EPA, from Mr. Robert S. Davis, U.S. EPA, re: Objection to the proposal to conduct benthic macroinvertebrate studies in the Red Lion Creek, 11/17/94. P. 308637-308639.
364. Letter to Ms. Katherine Lose, U.S. EPA, from Ms. Sarah W. Cooksey, DNREC, re: Review of the Consistency Determination, 11/21/94. P. 308640-308640.
365. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Review of work plan for an additional ecological study, 11/22/94. P. 308641-308643. A facsimile cover sheet is attached.
366. Letter to Mr. Robert Davis, U.S. EPA, from Mr. Robert J. Pennington, U.S. DOI, re: Fish and Wildlife Service's review of the work plan for additional ecological studies, 12/6/94. P. 308644-308645.
367. Letter to Ms. Kate Lose, U.S. EPA, from Ms. Anne V. Hiller, DNREC, re: Language to be used in a letter to Standard Chlorine concerning the work plan for additional ecological studies, 12/16/94. P. 308646-308647.



368. Comments regarding the Proposed Remedial Action Plan, prepared by BCM Engineers Inc., (undated). P. 308648-308665.

369. Record of Decision, Standard Chlorine of Delaware Site, 3/9/95, P. 308666-308803. The following are attached:

- a) a Site Location Map;
- b) Figure 2 - 1981 Release Flow Pathways;
- c) Figure 3 - 1986 Release Flow Pathways;
- d) Figure 4 - RI/FS Areas Evaluated;
- e) Figure 5 - 1981 Release;
- f) Figure 6 - 1986 Release Pathway, Soil Analytical results;
- g) Figure 7 - Wetland Sediment Sample Analytical Results;
- h) Figure 8 - Red Lion Creek and Unnamed Tributary, Sediment Analytical Results;
- i) Figure 9 - Concentration Map of Total Concentrations of SCD Analyzed Parameters in Columbia Formation;
- j) Figure 10 - Wetland Delineation;
- k) Figure 11 - Alternative 2, Conceptual Layout of Proposed Remedial Actions;
- l) Figure 12 - Proposed Remedial Actions in Wetlands;
- m) Figure 13 - Alternatives 3, 4A, 4B, 5A, 6, Conceptual Interceptor Trench/Physical Barrier Location;
- n) Figure 14 - Alternative 3, Conceptual Layout of Proposed Remedial Actions;
- o) Figure 15 - Alternatives 4A, 4B, 5A, Proposed Remedial Actions;
- p) Figure 16 - Proposed Remedial Actions;

- q) Table 1 - Descriptive Statistics for Chemicals of Concern in On-Site Surface Soils;
- r) Table 2 - Descriptive Statistics for Chemicals of Concern in Off-Site Surface Soils;
- s) Table 2 - Descriptive Statistics for Chemicals of Concern in Off-Site Sediments;
- t) Table 4 - Exposure Scenarios and Potential Exposure Routes;
- u) Table 5 - Summary of Carcinogenic Risks, and Table 6 - Summary of Non-Carcinogenic Hazard Indices;
- v) Table 7 - Summary of Analytical Results, Fish Sampling;
- w) Table 8 - EPA Analytical Data, March 1990 Fish sampling Event, Red Lion Creek;
- x) Table 9 - Summary of Alternatives;
- y) Table 10 - ARARs and "To Be Considered Material;"
- z) the Responsiveness Summary;
- aa) a letter dated February 23, 1995 concerning DNREC's concurrence with the ROD.

V. COMMUNITY INVOLVEMENT/CONGRESSIONAL CORRESPONDENCE/IMAGERY

1. U.S. EPA Fact Sheet, Superfund Update: Standard Chlorine Site, New Castle County, Delaware, 11/90. P. 500001-500006.
2. Letter to Ms. Evelyn McKnight, U.S. EPA, from Mr. Dilip R. Hansalia, DNREC, re: Concerns about consumption of fish expressed by Mr. Vincent D'Anna, Senator Biden's representative, in a June 5, 1990 congressional briefing, 7/17/90. P. 500007-500008.
3. Letter to Ms. Evelyn McKnight, U.S. EPA, from Ms. Diane E. Wehner, DNREC, re: Concerns about consumption of fish expressed by Mr. Vincent D'Anna, Senator Biden's representative, in a June 5, 1990 congressional briefing, 7/17/90. P. 500009-500013. A public advisory warning the public not to consume fish from the Red Lion Creek, sampling results of fish tissue, and a table of Safe Consumption Levels for Fish Found in Red Lion Creek are attached.
4. U.S. EPA Fact Sheet, re: Standard Chlorine Site, New Castle County, Delaware, 11/90. P. 500014-500019.
5. Letter to Ms. Felcia Dailey, U.S. EPA, from Ms. Maryann Mastrobuono, re: Concerns over the water table in the areas surrounding the site, 4/14/94. P. 500020-500021.
6. Transcript of Public Meeting, Standard Chlorine Site, 4/27/94. P. 500022-500131.
7. Letter to Ms. Katherine Lose, U.S. EPA, from Ms. Judith N. Knorr, re: Disapproval of remedial alternatives one and two for the site, 5/1/94. P. 500132-500133.
8. Letter to Ms. Felcia Dailey, U.S. EPA, from Mr. Gary G. Rullo, re: Comments made at the Superfund meeting concerning the site, 5/2/94. P. 500134-500136. The comments are attached.

SITE SPECIFIC GUIDANCE DOCUMENTS INCLUDED

1. Report: Evaluation of the Likelihood of DNAPL Presence at NPL Sites, prepared by U.S. EPA, 9/93. A cover memorandum is attached.  
OSWER #9355.4-13  
EPA/540/R-93-073
2. Guidance for Evaluating the Technical Impracticability of Ground Water Restoration, prepared by OERR, 9/93. A cover memorandum is attached.  
OSWER #9234.2-25
3. Memorandum to Mr. Patrick Tobin, U.S. EPA, from Ms. Marcia E. Williams, U.S. EPA, re: RCRA regulatory status of ground water contaminated with hazardous waste leachate, 11/13/86.
4. Report: Guidelines for Ground-Water Classification under the EPA Ground-Water Protection Strategy, prepared by the U.S. EPA, 12/86.
5. Status of Contaminated Groundwater and Limitations on Disposal and Reuse, prepared by OSWER, 1/24/89.  
OSWER #9481.00-11
6. Telephone conversation record of Mr. Dave Fagan, U.S. EPA Headquarters, with Ms. Pat Tan, Ms. Maureen Essenthier, Mr. Joel Hennessy, Mr. Dave Friedman, and Mr. Vern Butler, U.S. EPA - Region 3, re: RCRA status of contaminated ground water and soil, 11/2/90.
7. Letter to Mr. John E. Ely, Virginia Department of Waste Management, from Ms. Sylvia Lawrence, U.S. EPA, re: EPA's "contained in" interpretive policy with regard to ground water, soil, and sediment, 3/26/91.
8. Information packet on RCRA Applicable, Relevant, and Appropriate Requirements (ARARs), 4/15/93.
9. Report: American National Standard Measurement of the Leachability of Solidified Low-Level Radioactive Wastes By a Short-Term Test Procedure, prepared by American Nuclear Society Standards Committee, 7/14/86.
10. Paper: Degradation of 1,4-Dichlorobenzene by Alcaligenes, sp. Strain A175, prepared by Gosse Schraa, Mr. Martin L. Boone, et. al., 9/17/86.

11. Paper: Degredation of 1,4,-Dichlorobenzene by a Pseudomonas sp., prepared by Mr. Jim C. Spain and Ms. Shirley F. Nishino, 2/5/87.
12. Paper: Degradation of 1,2-Dichlorobenzene by a Pseudomonas, sp., prepared by Mr. Billy E. Haigler, Ms. Shirley F. Nishino, and Mr. Jim C. Spain, 11/3/87.
13. Paper: Biore Restoration of Aquifers Contaminated With Organic Compounds, prepared by National Center for Ground Water Research, 1988.
14. Report: Risk Assessment Guidance for Superfund Volume I, Human Health Evaluation Manual (Part A), prepared by EPA, 12/89.  
EPA/540/1-89/002
15. Quick Reference Fact Sheet entitled Immobilization as Treatment, prepared by U.S. EPA, 2/91.
16. Report: Dermal Exposure Assessment: Principles and Applications, prepared by U.S. EPA, 1/92.
17. Report: Ground Water Issue, In-situ Bioremediation of Contaminated Ground Water, prepared by U.S. EPA, 2/92.
18. Paper: Biodegradation of Mixtures of Substituted Benzenes by Pseudomonas sp. Strain JS150, prepared by Mr. Billy E. Haigler, Mr. Charles A. Pettigrew, and Mr. Jim C. Spain, 4/21/92.
19. Engineering Bulletin: Solidification/Stabilization of Organics and Inorganics, prepared by U.S. EPA, 5/93.
20. Engineering Bulletin: In Situ Biodegradation Treatment, prepared by U.S. EPA, 4/94.
21. Excerpt from NTIS 1990 - 1993, re: Chlorobenzene and biodegradation, (undated).

#### BIBLIOGRAPHY OF SITE SPECIFIC GUIDANCE DOCUMENTS

1. Expanded Site Inspection Transitional Guidance for FY-88, prepared by OERR, 10/1/87.  
OSWER #9345.1-02
2. Preliminary Assessment Guidance Fiscal Year 1988, prepared by OERR/HSCD, 1/1/88.  
OSWER #9345.0-01
3. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, prepared by OSWER/OERR, 10/1/88.  
OSWER #9355.3-01
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